

Please replace the paragraph beginning at page 14, line 10, with the following rewritten paragraph:

A2

-- An antireflective structure according to the present invention comprises an antireflective layer that resists fouling of the semiconductor structure such as photoresist foot poisoning and that has the ability to absorb light or to scatter light into patterns and intensities that do not substantially affect photoresist material that is exposed by those patterns and intensities. --

IN THE CLAIMS:

Please cancel claims 1-15 without prejudice.

Please amend the following claims:

16. (Once Amended) A semiconductor structure comprising:

a semiconductor substrate; and

~~173 sub B2~~ an antireflective coating over the semiconductor substrate, the antireflective coating being composed of a metal silicon nitride ternary compound, wherein the metal is at least one metal selected from the group consisting of Sc, Ti, Zr, Nb, Ta, Mo, W, Co, Al, and Ni, wherein the antireflective coating is configured to minimize reflectivity of deep ultraviolet light.

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B3
17. (Once Amended) The semiconductor structure as defined in Claim 16, wherein the metal silicon nitride ternary compound is selected from the group consisting of titanium tungsten silicon nitride, tungsten aluminum silicon nitride, and titanium aluminum silicon nitride.

A3
18. (Once Amended) The semiconductor structure as defined in Claim 16, wherein the antireflective coating has a thickness range from about 25 Angstroms to about 1,000 Angstroms.

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19. (Once Amended) The semiconductor structure as defined in Claim 16, wherein the metal is selected from the group consisting of Ti_rW_{1-r} , W_rAl_{1-r} , and Ti_rAl_{1-r} .

20. (Once Amended) The semiconductor structure as defined in Claim 16, wherein:
the antireflective coating has a film thickness and a grain size; and
the grain size of the antireflective coating is less than the film thickness or is amorphous.

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23. (Once Amended) The semiconductor structure as defined in Claim 21, wherein the antireflective coating is further composed of hemispherical grained polysilicon.

A4
24. (Once Amended) The semiconductor structure as defined in Claim 16, wherein the antireflective coating reflects incident light energy in a reflectivity that is in a range from 0 percent to about 30 percent.

25. (Once Amended) The semiconductor structure as defined in Claim 16, wherein:

the antireflective coating is upon a formation that is selected from the group consisting of an isolation trench, a contact corridor, a via, a stacked storage node well, and a wiring trench.

26. (Once Amended) A semiconductor structure comprising:

a semiconductor substrate; and

an antireflective coating upon said semiconductor substrate, the antireflective coating being composed of a metal silicon nitride ternary compound $M_xSi_yN_z$, wherein:

x is greater than zero;

y is greater than x;

z is greater than zero and less than about 5y;

M is at least two transition metals composed of $M_1, M_{2(1-r)}$;

r is in a range from 0 to 1;

M1 and M2 are selected from the group consisting of Sc, Ti, Zr, Nb, Ta, Mo, W, Co, and Ni; and

M1 is not M2.

27. (Once Amended) The semiconductor structure as defined in Claim 26, wherein the antireflective coating has a thickness range from about 25 Angstroms to about 1,000 Angstroms.

28. (Once Amended) The semiconductor structure as defined in Claim 26, wherein the antireflective coating is also composed of hemispherical grained polysilicon.

29. (Once Amended) ~~A semiconductor structure comprising:~~

an electrically insulative layer upon a semiconductor substrate;

a patterned electrically conductive metal line upon the electrically insulative layer; and

an antireflective coating upon said electrically conductive metal line, wherein the antireflective coating is configured to minimize reflectivity of deep ultraviolet light, the antireflective coating being composed of a metal silicon nitride ternary compound $M_xSi_yN_z$, wherein:

x is greater than zero;

M is at least one transition metal selected from the group consisting of Sc, Ti, Zr, Nb, Ta, Mo, W, Co, Al, and Ni;

y is greater than x; and

z is greater than about 0 and less than about 5y.

30. (Once Amended) The semiconductor structure as defined in Claim 29, wherein the antireflective coating has a thickness range from about 25 Angstroms to about 1,000 Angstroms.

31. (Once Amended) The semiconductor structure as defined in Claim 29, wherein the antireflective coating is also composed of hemispherical grained polysilicon.

32. (Once Amended) A semiconductor structure comprising:

a semiconductor substrate; and

an antireflective coating over the semiconductor substrate, the antireflective coating being composed of a metal silicide binary compound, wherein the metal is at least one metal selected from the group consisting of Sc, Ti, Zr, Nb, Ta, Mo, W, Co, Al, and Ni.

36. (Once Amended) The semiconductor structure as defined in Claim 32, wherein:

the metal silicide binary compound is M_xSi_y ; and

M is tungsten, x is 1, and Si is in a range from about 1.5 to about 5.

37. (Once Amended) The semiconductor structure as defined in Claim 32, wherein the antireflective coating is further composed of hemispherical grained polysilicon.

38. (Once Amended) The semiconductor structure as defined in Claim 32, wherein:

the antireflective coating has a film thickness and a grain size; and

the grain size of the antireflective coating is less than the film thickness or is amorphous.

39. (Once Amended) The semiconductor structure as defined in Claim 32, wherein the antireflective coating reflects incident light energy in a reflectivity that is in a range from 0 percent to about 30 percent.

40. (Once Amended) The semiconductor structure as defined in Claim 32, wherein:

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the antireflective coating is upon a formation that is selected from the group consisting of an isolation trench, a contact corridor, a via, a stacked storage node well, and a wiring trench.

Please add the following new claims:

41. A semiconductor structure comprising:

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a semiconductor substrate; and

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an antireflective coating over the semiconductor substrate, the antireflective coating comprising a metal silicon nitride compound selected from the group consisting of titanium tungsten silicon nitride, tungsten aluminum silicon nitride, and titanium aluminum silicon nitride.

42. A semiconductor structure comprising:

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a semiconductor substrate; and

an antireflective coating over the semiconductor substrate, the antireflective coating comprising a metal silicon nitride compound, wherein the metal is at least one metal selected from the group consisting of Sc, Co, Al, and Ni.

43. A semiconductor structure comprising:

a semiconductor substrate; and

an antireflective coating over the semiconductor substrate and having a thickness range from about 25 Angstroms to about 200 Angstroms, the antireflective coating comprising a metal silicon nitride compound, wherein the metal is at least one metal selected from the group consisting of Sc, Ti, Zr, Nb, Ta, Mo, W, Co, Al, and Ni.

44. The semiconductor structure as defined in Claim 43, wherein the antireflective coating has a thickness range from about 85 Angstroms to about 200 Angstroms.
